



A PUBLIC HEALTH APPROACH TO ALZHEIMER'S AND OTHER DEMENTIAS

**ALZHEIMER'S DISEASE – WHAT IS
THE ROLE OF PUBLIC HEALTH?**



Emory Centers
for Training and
Technical Assistance



LEARNING OBJECTIVES

- List 3 key tools public health can apply to the Alzheimer's disease epidemic
- Describe surveillance/monitoring and how public health can apply it in response to Alzheimer's disease
- Name the 2 BRFSS modules that pertain to cognitive decline and caregiving
- Describe primary prevention and how public health can apply it to Alzheimer's disease
- Explain why it is important to promote early detection of Alzheimer's disease



COMPETENCIES

Association for Gerontology in Higher Education (AGHE):

- 1.2.4 Recognize common late-life syndromes and diseases and their related bio-psycho-social risk and protective factors.

Association of Schools and Programs of Public Health (ASPPH):

- Domain 2: Describe how the methods of epidemiology and surveillance are used to safeguard the population's health.
- Domain 3: Endorse lifestyle behaviors that promote individual and population health and well-being.

Council on Linkages Between Academia and Public Health Practice:

- 3A8. Describes the roles of governmental public health, health care, and other partners in improving the health of a community.
- 8A3. Describes the ways public health, health care, and other organizations can work together or individually to impact the health of a community.
- 8A4. Contributes to development of a vision for a healthy community (e.g., emphasis on prevention, health equity for all, excellence and innovation).



COMPETENCIES CONT.

National Association of Chronic Disease Directors (NACDD):

- Domain 7: Identify relevant and appropriate data and information sources for chronic disease.
- Domain 7: Articulate evidence-based approaches to chronic disease prevention and control.

National Commission for Health Education Credentialing, Inc. (NCHEC):

- 1.7.4 Identify emerging health education needs.
- 7.1.1 Identify current and emerging issues that may influence health and health education.



INTRODUCTION: DEMENTIA & ALZHEIMER'S DISEASE

- Dementia is a decline in mental ability severe enough to interfere with daily life
 - Caused by damage to brain cells, primarily affects older adults
- Alzheimer's disease is the most common type of dementia
 - Progressive loss of memory and brain function, behavior and personality changes
 - No cure and limited treatment options
 - Caregivers provide increasing assistance
- Huge impact on individuals, families, caregivers, and the health care system
- Public health plays important role in addressing Alzheimer's disease through surveillance, prevention, detection, and support of dementia capable systems

ALZHEIMER'S: A PUBLIC HEALTH CRISIS

- Historically viewed as medical or aging issue
- Growing recognition of public health crisis:
 - Large and growing epidemic
 - Significant impact
 - Ways to intervene



ALZHEIMER'S: EPIDEMIC (U.S.)

- Over 5 million adults
- 1 in 9 adults age ≥ 65
- 1 in 3 adults age ≥ 85
- By 2050, expected to reach 13.8 million





ALZHEIMER'S IMPACT: COSTS

- Significant costs to Medicare, Medicaid, individuals, caregivers
- Annual costs of care over \$200 billion
- Most expensive disease in the U.S.



ALZHEIMER'S: DISPROPORTIONAL IMPACT

- Women: 2/3 of the population
- African-Americans: 2 times more likely
- Hispanics: 1.5 times more likely



⁴ Alzheimer's Association. *2016 Alzheimer's Disease Facts and Figures*.



ALZHEIMER'S: CAREGIVING BURDEN

- Requires increasing levels of caregiving (paid or unpaid)
- Over 15 million caregivers
- 18 billion hours of unpaid care annually
- Hardships: health, emotional, financial

⁵ Alzheimer's Association. *2016 Alzheimer's Disease Facts and Figures*.

ALZHEIMER'S: HEALTH CARE BURDEN

- Disproportionate use of health care resources
 - Hospitalized 2-3 times more often
 - Represents 64% of Medicare beneficiaries living in nursing homes
- Workforce shortage
- Inadequate training



⁶ Alzheimer's Association. (2013) *Combating Alzheimer's Disease: A Public Health Agenda*.

⁷ Alzheimer's Association. *2016 Alzheimer's Disease Facts and Figures*.

⁸ U.S. Department of Health and Human Services. *National Plan to Address Alzheimer's Disease: 2013 Update*.

PUBLIC HEALTH: TOOLS & TECHNIQUES

3 key public health intervention tools:

- Surveillance/monitoring
- Primary prevention
- Early detection and diagnosis



⁹ Alzheimer's Association. (2013) *Combating Alzheimer's Disease: A Public Health Agenda*.



TOOL #1: SURVEILLANCE

ALZHEIMER'S DISEASE – WHAT IS THE ROLE OF PUBLIC HEALTH?



SURVEILLANCE & PUBLIC HEALTH

- Compile data on a population level including:
 - Prevalence of certain diseases
 - Health risk factors
 - Health behaviors
 - Burden of diseases
- Little state-level data on Alzheimer's and dementia

¹⁰ Alzheimer's Association. (2014) *Data Collection and Behavioral Risk Factor Surveillance System (BRFSS)*.

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

- Behavioral Risk Factor Surveillance System (CDC)
 - Health-related risk behaviors
 - Chronic health conditions
 - Use of preventive services
- State-based data
- Cognitive Decline, Caregiver modules





BRFSS: COGNITIVE DECLINE MODULE

- Comprised of questions about:
 - Confusion or memory loss
 - Impact on daily activities
 - Need for assistance and caregiving
 - Discussed with health care professional
- 52 states/territories have used at least once

¹² Alzheimer's Association. (2014) *Data Collection and Behavioral Risk Factor Surveillance System (BRFSS)*.

¹³ Centers for Disease Control and Prevention. *Behavioral Risk Factor Surveillance System (BRFSS) 2015 Cognitive Decline Module*. Accessed June 10, 2015 from website: <http://www.cdc.gov/aging/healthybrain/brfss-faq.htm>



BRFSS: CAREGIVER MODULE

- Comprised of questions about:
 - Prevalence of caregiving and caregiving activities
 - Caregiver age, gender, relationship to care recipient
 - Scope of caregiving
 - Caregiver challenges
- 40 states/territories have used at least once

¹⁴ Alzheimer's Association. (2014) *Data Collection and Behavioral Risk Factor Surveillance System (BRFSS)*.



DISCUSSION QUESTION



How could the Cognitive Decline and Caregiver BRFSS data be used by state and local public health?



PUBLIC HEALTH: SURVEILLANCE DATA

- Develop strategies to reduce risk
- Design interventions to alleviate burden
- Inform public policy
- Guide research
- Evaluate programs and policies
- Educate public and health care community



¹⁵ Alzheimer's Association. (2014) *Data Collection and Behavioral Risk Factor Surveillance System (BRFSS)*.

¹⁶ Centers for Disease Control and Prevention. *The CDC Healthy Brain Initiative: Progress 2006 – 2011*.

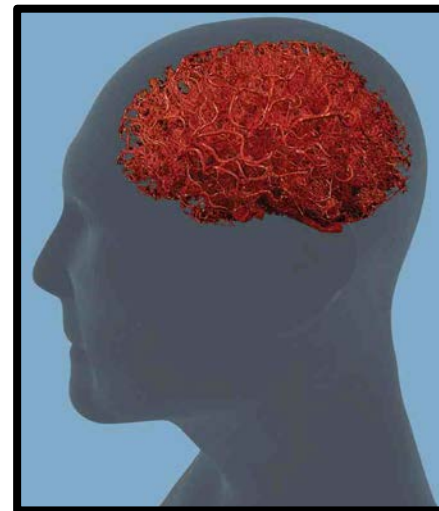


TOOL #2: PRIMARY PREVENTION & RISK REDUCTION

ALZHEIMER'S DISEASE – WHAT IS THE ROLE OF PUBLIC HEALTH?

PRIMARY PREVENTION

- Designed to prevent a disease or condition from developing in a population
- Causes of Alzheimer's not fully understood
- Primary prevention for Alzheimer's:
 - Risk reduction
 - Promotion of cognitive health



¹⁷ Centers for Disease Control and Prevention. *The Concept of Prevention*. Accessed August 14, 2015 from: <http://www.cdc.gov/arthritis/temp/pilots-201208/pilot1/online/arthritis-challenge/03-Prevention/concept.htm>



DISCUSSION QUESTION



What are risk factors for Alzheimer's disease that could be modified/reduced?

RISK REDUCTION: HEAD TRAUMA

- Moderate or severe traumatic brain injury
- Risk remains for years after original injury
- Prevention efforts include:
 - Seat belt use
 - Use of helmets
 - Falls prevention



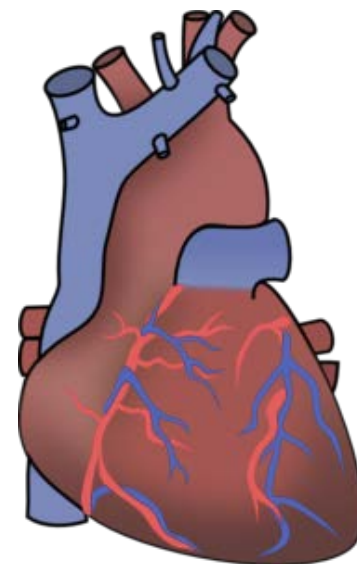
¹⁸ Alzheimer's Association. (2015) *Traumatic Brain Injury*.

¹⁹ Centers for Disease Control and Prevention. *Older Adults Falls: Get the Facts*. Accessed June 10, 2015 from website:

<http://www.cdc.gov/HomeandRecreationalSafety/Falls/adultfalls.html>

RISK REDUCTION: HEART HEALTH

- Close link between heart health and brain health
- Modifying cardiovascular risk:
 - Quitting smoking
 - Diet (DASH, Mediterranean)
 - Physical activity



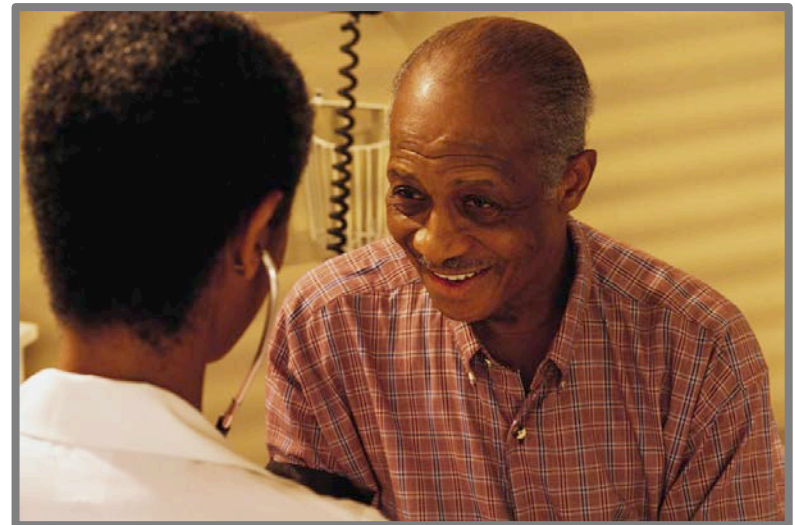
²⁰ Alzheimer's Association. (2014) *Alzheimer's and Public Health Spotlight: Heart Health and Brain Health*.

²¹ Alzheimer's Association. *Prevention and Risk of Alzheimer's and Dementia*. Accessed July 16, 2015 from website: http://www.alz.org/research/science/alzheimers_prevention_and_risk.asp

²² Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. *Physical Activity is Essential to Healthy Aging*. Accessed September 1, 2015 from website: http://www.cdc.gov/physicalactivity/basics/older_adults/

RISK REDUCTION: AVOIDANCE/MANAGEMENT

- Prevent onset of or effectively manage conditions that can increase risk for Alzheimer's
 - Diabetes
 - High blood pressure (hypertension)
 - Midlife obesity



²³ Baumgart, M., Snyder, H., Carrillo, M., Fazio, S., et.al, *Summary of the evidence on modifiable risk factors for cognitive decline and dementia: A population-based perspective*. *Alzheimer's & Dementia* 11 (2015) 718-726.

RISK REDUCTION: ACTIVE BRAIN²⁴

- Mental stimulation:
 - Learning new information and skills
 - Volunteering
 - Reading
 - Playing challenging games
- Social connections



²⁴ National Institute on Aging. (2015) *Alzheimer's Disease: Unraveling the Mystery*.



DISCUSSION QUESTION



How could public health play a role
in promoting risk reduction and
cognitive health?

PUBLIC HEALTH: RISK REDUCTION

- Health education and promotion campaigns
 - Brain and cardiovascular health
 - Detection/treatment of diabetes and high blood pressure
 - Smoking cessation
- Programs and policies
 - Injury prevention
 - Cardiovascular health



²⁵ Alzheimer's Disease International. *World Alzheimer Report 2014: Dementia and Risk Reduction, An Analysis of Protective and Modifiable Factors, Summary Sheet.*

²⁶ Alzheimer's Association and Centers for Disease Control and Prevention. (2013) *The Public Health Road Map for State and National Partnerships, 2013-2018.*



TOOL #3: EARLY DETECTION & DIAGNOSIS

ALZHEIMER'S DISEASE – WHAT IS THE ROLE OF PUBLIC HEALTH?



DISCUSSION QUESTION



Would you want to know if you had
Alzheimer's disease?
Why or why not?

WHY PROMOTE EARLY DETECTION?

- Access to treatment and services
- Planning
- Potentially reversible causes
- Clinical trials



²⁷ Alzheimer's Association. (2013) *Combating Alzheimer's Disease: A Public Health Agenda*.

²⁸ Alzheimer's Association. *Early Detection*. Accessed June 8, 2015 from website: <http://www.alz.org/publichealth/early-detection.asp>

²⁹ National Institutes on Aging. (2015) *Alzheimer's Disease: Unraveling the Mystery*.

³⁰ U.S. Health and Human Services. *National Plan to Address Alzheimer's Disease: 2015 Update*

EARLY DETECTION: DIAGNOSIS RATES

- Most people with Alzheimer's disease have either:
 - Not been diagnosed
 - Been diagnosed but are not aware of diagnosis
- Only 35% aware of diagnosis
- Health disparities



³¹ Alzheimer's Association. *2015 Alzheimer's Disease Facts and Figures*.

³² Alzheimer's Association. (2013) *Alzheimer's and Public Health Spotlight: Race, Ethnicity & Alzheimer's Disease*.



EARLY DETECTION: CHALLENGES

- Diagnostic uncertainty
- Time constraints, lack of support
- Communication difficulties
- Fear of causing emotional distress
- Reluctance to discuss with health care provider

³³ Alzheimer's Association. *2016 Alzheimer's Disease Facts and Figures*.

³⁴ Alzheimer's Association. (2015) *Cognitive Data from the 2012 BRFSS*.

EARLY DETECTION: MOST WANT TO KNOW

- 89% of Americans would want to know
- Of those age 60 and older, 95% would want to know
- 97% would want to know about a family member





DISCUSSION QUESTION



What can public health do to
promote early detection of
Alzheimer's disease?

PUBLIC HEALTH: EARLY DIAGNOSIS

- General education and awareness
 - “10 Warning Signs” – Alzheimer’s Association
 - Benefits of early detection
- Education and training for health care providers
- Education for newly diagnosed



CONCLUSION: PUBLIC HEALTH RESPONSE

- 3 key public health intervention tools:
 - Surveillance/monitoring
 - Primary prevention
 - Early detection and diagnosis





DEMENTIA CAPABLE SYSTEMS AND DEMENTIA FRIENDLY COMMUNITIES

- Dementia capable systems
 - Public health research and translation
 - Support services
 - Workforce training
- Dementia friendly communities





FOR MORE INFORMATION

For more information, please visit the Alzheimer's Association website at: <http://www.alz.org>

